GOVERNANCE RESILIENCE FRAMEWORK

GRF

An Integrated Governance Model for Institutional Learning and Economic Resilience

Integrating ISO 37000, ISO 37301, ISO 37002 and OECD Responsible Business Conduct principles

Core proposition

Governance failures rarely remain internal. Through the erosion of institutional learning and adaptive capacity, they can become economic failures affecting the resilience of local ecosystems.

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Conceptual / policy framework - Full Draft

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Document Purpose and Status

A governance model intended for policy reflection, organizational diagnosis and future empirical validation.

The Governance Resilience Framework (GRF) is a conceptual and applied governance model. It integrates established international governance, compliance, whistleblowing and responsible business conduct frameworks with a proposed resilience layer that examines how organizational governance quality may affect wider economic ecosystems over time.

The GRF does not replace ISO standards, OECD guidance, applicable law, audit standards, or sector-specific regulation. It is designed as an integrative architecture: existing standards provide the governance and management foundations; the GRF adds a transmission model, resilience indicators, maturity logic, and a structured way to examine external economic consequences.

Methodological boundary

The framework proposes plausible transmission pathways and diagnostic indicators. It does not assume that every governance weakness causes economic harm, nor that correlation establishes causation. The Governance Resilience Score (GRS) presented later is conceptual and should not be used as a certification or assurance conclusion until independently validated.

Intended users

- Boards, governing bodies, compliance, risk and internal audit functions
- Regulators, supervisory authorities and OECD National Contact Points
- Investors, lenders, public enterprises and state ownership bodies
- Policy makers, researchers and economic development institutions

Framework outputs

Outputs include GRTM, GRF Principles, an integrated standards architecture, GRI, GRMM, a conceptual GRS, the implementation cycle and an illustrative case appendix.

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Section	Purpose
Executive Summary	Core thesis and architecture.
1. The Governance Gap	Why existing disciplines do not fully capture resilience externalities.
2. Governance Resilience Principles	Five operating principles.
3. Governance-to-Resilience Transmission Model	Six-stage transmission pathway.
4. Compliance as Institutional Infrastructure	Compliance as memory and adaptive capacity.
5. OECD Responsible Business Conduct Dimension	Due diligence, engagement, remedy and learning.
6. Integrated Governance Architecture	ISO 37000 + ISO 37301 + ISO 37002 + OECD RBC + GRTM.
7. Governance Resilience Indicators	Indicator library for diagnosis and evidence.
8. Governance Resilience Maturity Model	Five maturity levels.
9. Governance Resilience Score	Conceptual score for future validation.
10. Implementation and Assurance	Assessment-to-learning cycle.
11. Policy Recommendations	Recommendations by stakeholder group.
12. Research and Validation Agenda	Validation agenda.
13. Conclusion	Final resilience proposition.
Appendix A. Illustrative Case Validation: Nova Željezara Zenica	Bounded GRTM application to documented insolvency and continuity risks.
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Executive Summary

Corporate governance is commonly evaluated through compliance, accountability, internal controls, risk management and sustainability performance. These dimensions remain essential, but they largely assess the organization itself. The GRF asks a complementary question: what happens when governance weaknesses persist long enough to affect the surrounding economic ecosystem?

The central proposition is that governance failures rarely remain internal. Repeated failures of transparency, oversight, reporting, remediation and learning can erode institutional memory and adaptive capacity. Effects may then transmit through suppliers, labour markets, investors, infrastructure dependencies and communities, creating governance externalities: costs generated inside an organization but borne partly outside it.

Central paradigm

Governance failure -> loss of institutional learning -> declining adaptive capacity -> declining stakeholder confidence -> economic transmission -> local economic fragility.

The GRF treats effective compliance as institutional infrastructure: a system that protects information integrity, preserves warning signals, supports remediation, converts experience into institutional memory, and enables adaptation before risk becomes irreversible.

The model integrates four international reference points: ISO 37000 for governance, ISO 37301 for compliance management, ISO 37002 for speak-up systems, and OECD Responsible Business Conduct for due diligence, stakeholder engagement and access to remedy. The GRF adds a resilience layer linking internal governance quality to wider economic resilience.

Practical contribution

The GRF integrates governance, compliance, protected reporting, responsible business conduct and economic resilience in one diagnostic architecture. Its tools include the GRTM, Governance Resilience Indicators, a five-level maturity model, a conceptual score and a continuous implementation cycle.

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The Governance Gap

From organizational control to ecosystem resilience.

1.1 The limits of an exclusively internal view

Contemporary governance frameworks have progressively expanded beyond shareholder control. The 2023 G20/OECD Principles, for example, emphasize disclosure, board responsibility, stakeholder interests, sustainability and resilience. ISO 37000 likewise provides governance guidance applicable across organizations, and ISO 37301 formalizes the architecture of compliance management systems. Yet governance evaluation is still commonly operationalized through internal controls, policy compliance, audit findings, financial outcomes and organization-level risk registers.

Those measures answer important questions: Is the organization controlled? Are obligations identified? Are responsibilities assigned? Are breaches investigated? Are risks monitored? They do not, by themselves, answer a second-order question: does governance preserve the adaptive capacity of the economic system that depends on the organization?

1.2 Governance externalities

The GRF uses the term governance externalities to describe consequences of governance weakness that are not fully absorbed by the organization that generated them. Potential externalities include payment disruption for suppliers, labour-market instability, loss of local tax capacity, deterioration of essential service continuity, investor uncertainty, reputational spillover to a region, and weakened confidence in public institutions responsible for oversight or remedy.

Analytical distinction

Operational failure is not automatically governance failure, and governance failure is not automatically an economic externality. The GRF is concerned with repeated or material governance weaknesses that reduce learning and adaptive capacity and thereby create plausible pathways to wider economic effects.

1.3 Why ESG, risk and compliance are insufficient alone

Discipline	Primary strength	GRF extension

Discipline	Primary strength	GRF extension
ESG	Captures environmental, social and governance performance and disclosure.	May not show whether warning signals are converted into learning or whether local dependencies amplify failure.
Enterprise risk management	Identifies and treats risks to objectives.	Often organized around risks to the enterprise rather than risks transmitted by the enterprise.
Compliance management	Structures obligations, controls, monitoring and corrective action.	Can become formalistic if the organization does not preserve institutional memory and independent challenge.
Internal audit	Provides independent assurance and recommendations.	Findings can remain episodic if governing bodies do not track remediation and systemic recurrence.
Whistleblowing systems	Provide channels for reporting wrongdoing and risk.	A channel alone does not ensure trust, protection, remediation or organizational learning.

1.4 The GRF research gap

The relevant fields are mature individually: corporate governance explains direction and oversight; compliance management explains how organizations identify and respond to obligations; organizational learning explains how institutions acquire and retain knowledge; institutional economics explains how institutions shape economic performance; resilience research explains adaptation under stress. The missing link is an operational model that makes the transmission pathway between these fields explicit and assessable.

The GRF therefore introduces governance-to-resilience transmission as the mechanism through which governance quality may influence local economic resilience through information integrity, institutional learning, adaptive capacity and stakeholder confidence.

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Governance Resilience Principles

The normative logic of the framework.

Principle 1 - Transparency preserves institutional memory

Material governance signals must be documented, accessible to authorized decision-makers and traceable over time. Information that disappears cannot become organizational knowledge.

Principle 2 - Protected reporting preserves organizational learning

Speak-up mechanisms are not merely complaint channels. When credible concerns can be raised without retaliation and handled impartially, the organization preserves weak signals that may otherwise be lost.

Principle 3 - Learning capacity determines adaptive capacity

A governance system becomes adaptive only when findings produce changes to decisions, controls, incentives, resource allocation and strategy. Repetition without learning is a resilience failure.

Principle 4 - Adaptive governance sustains stakeholder confidence

Stakeholders are more likely to maintain trust when organizations demonstrate that concerns are heard, evidence is evaluated, reasons are documented, remedies are implemented and recurrence is reduced.

Principle 5 - Stakeholder confidence supports economic resilience

Stable expectations among employees, suppliers, investors, communities and public institutions reduce uncertainty and support continuity. Governance quality therefore has an economic dimension beyond legal conformity.

2.1 Principle interaction

The principles are cumulative rather than substitutive. Transparency without protection may expose reporters. Protection without remediation may create procedural legitimacy without learning. Learning without board oversight may remain local and reversible. Stakeholder engagement without information integrity may become symbolic. Resilience therefore depends on the chain functioning as a system.

2.2 Decision rule

GRF decision rule

When a material concern arises, the governance question is not only whether a rule was breached. The governing body should also ask: What did this signal teach us? What dependency did it reveal? What corrective action is required? What external stakeholders could be affected if the issue persists?

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Governance-to-Resilience Transmission Model (GRTM)

The central diagnostic model.

Governance-to-Resilience Transmission Model (GRTM)

Source note: *GRF original conceptual model. Transmission stages should be empirically tested; the model does not assert automatic causation.*

Stage 1 - Governance Failure

Weak oversight, procedural opacity, unresolved control deficiencies, unmanaged conflicts, poor escalation, or ineffective accountability. The relevant feature is persistence: the organization receives signals but fails to convert them into proportionate governance action.

Stage 2 - Loss of Institutional Learning

Warnings, audit findings, complaints, near misses and external feedback fail to accumulate as usable organizational knowledge. Institutional memory fragments across people, systems and functions.

Stage 3 - Declining Adaptive Capacity

Because learning is weak, the organization adjusts slowly to changing legal, technological, market or operational conditions. Corrective actions become reactive, narrow or temporary.

Stage 4 - Declining Stakeholder Confidence

Employees, suppliers, lenders, regulators, investors and communities respond to uncertainty. The cost of coordination rises. Information becomes harder to obtain. Trust is replaced by contractual protection, delay or exit.

Stage 5 - Economic Transmission

Governance weaknesses begin to affect payment patterns, production continuity, employment, supply chains, investment decisions, critical infrastructure or local business networks.

Stage 6 - Local Economic Fragility

Where dependence on the organization is material, cumulative effects may reduce regional competitiveness, supplier diversity, employment stability, investment attractiveness and institutional trust.

3.1 Feedback loops

The GRTM is not a one-way cascade. Economic stress can intensify internal governance risk: liquidity pressure can shorten decision horizons; staff departures can erase knowledge; supplier distress can reduce operational options; political intervention can complicate accountability. The framework therefore treats late-stage fragility as a feedback loop that increases the value of early detection.

3.2 Transmission conditions

- Material organizational scale or local dependency
- Concentrated supplier or employment relationships
- Critical infrastructure or essential-service dependence
- Weak substitution options for key inputs or outputs
- Low transparency and delayed stakeholder information
- Governance signals that recur without effective remediation

04

Compliance as Institutional Infrastructure

From legal defence to learning architecture.

ISO 37301 frames compliance management as an organizational system that can be established, implemented, evaluated, maintained and improved. The GRF builds on that management-system logic but places additional emphasis on the economic value of the learning cycle. Compliance infrastructure is valuable because it preserves information before it becomes crisis data.

4.1 Four infrastructure functions

Function	Purpose	Failure mode
Institutional memory	Preserve obligations, decisions, investigations, lessons, remediation history and rationale.	Loss of history; recurring errors; dependence on individuals.
Information integrity	Ensure material signals are captured, classified, escalated and protected from inappropriate alteration or suppression.	Blind spots; distorted risk picture; delayed decisions.
Adaptive governance	Convert evidence into changes to controls, incentives, resources, strategy and board oversight.	Formal compliance without resilience.
Stakeholder trust	Demonstrate that concerns are handled consistently, impartially and with appropriate remedy.	Reporter silence, supplier defensive behaviour, regulator scepticism.

4.2 Compliance as an early-warning system

A mature compliance function should detect more than breaches. It should detect changes in the operating environment, repeated control weaknesses, contradictory incentives, concentrations of decision authority, deteriorating remediation times, retaliation signals, and unresolved dependencies. In the GRF, such data are leading indicators of resilience risk.

4.3 Institutional memory

Institutional memory is the retained capacity to reconstruct what the organization knew, when it knew it, how it evaluated the information, what action it took, and what it learned. This concept is central to resilience because organizations under stress frequently lose personnel and decision continuity. A resilient governance system therefore retains knowledge in auditable processes rather than only in individual experience.

4.4 Speak-up as a knowledge channel

ISO 37002 describes whistleblowing management around trust, impartiality and protection and organizes case handling around receiving, assessing, addressing and concluding reports. Within the GRF, this architecture is treated as a protected knowledge channel: it preserves information that formal reporting hierarchies may fail to capture.

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OECD Responsible Business Conduct Dimension

Due diligence, engagement, remedy and learning.

The OECD Guidelines for Multinational Enterprises on Responsible Business Conduct are government-backed recommendations covering key areas of responsible business conduct. The 2023 edition also updated implementation procedures for National Contact Points (NCPs). The OECD Due Diligence Guidance operationalizes risk-based due diligence, while NCPs provide a non-judicial mechanism for resolving issues related to implementation of the Guidelines.

5.1 Four RBC functions in the GRF

RBC element	Established function	GRF resilience interpretation
Due diligence	Identify, prevent and mitigate adverse impacts and track effectiveness.	Resilience input: systematic detection of external dependencies and impacts.
Meaningful stakeholder engagement	Two-way, good-faith and responsive engagement with affected or potentially affected stakeholders.	Resilience input: access to distributed knowledge and early warning.
Access to remedy	Provide for or cooperate in legitimate remediation when appropriate.	Resilience input: unresolved harm is prevented from accumulating into institutional distrust and recurring risk.
Institutional learning	Extract lessons from due diligence, grievance handling, NCP processes, audits and remediation.	GRF extension: convert case-level experience into system-level prevention.

5.2 Remedy as a resilience mechanism

Key argument

Effective remedy contributes to governance resilience because unresolved governance failures can accumulate as systemic risk. Remedy is therefore not only backward-looking redress; when coupled with learning, it is a forward-looking prevention mechanism.

This proposition should be treated as a conceptual extension rather than an attribution to the OECD Guidelines themselves. OECD instruments establish expectations around due diligence, stakeholder engagement and access to remedy; the GRF proposes that organizations also evaluate the learning and resilience effects of those processes.

5.3 NCP relevance

NCPs are designed to further the effectiveness of the OECD Guidelines, promote the Guidelines, handle specific instances, and in some cases support wider government policy efforts on responsible business conduct. The GRF could be useful as a supplementary learning lens after a specific instance: not to reopen or re-adjudicate the merits, but to identify recurring governance signals, remediation gaps and resilience implications.

5.4 Institutional learning after case closure

Closure of a grievance process should not necessarily mean closure of learning. Organizations and institutions can retain procedural observations, track recurring issues, compare remediation outcomes and feed those lessons into governance design. The GRF treats that post-case learning cycle as a distinct resilience capability.

06

Integrated Governance Architecture

Governance, compliance, speak-up, stakeholders and resilience in one model.

Governance Resilience Framework (GRF): integrated architecture

Source note: *Architecture is an original GRF integration. It does not imply formal endorsement, equivalence or certification by ISO or OECD.*

Reference	GRF layer	Primary contribution	Integration role
ISO 37000:2021	Governance layer	Purpose, governing-body responsibility, oversight and stakeholder-oriented governance.	Sets direction and accountability.
ISO 37301:2021	Compliance layer	Compliance management system requirements and guidance; continual improvement.	Converts obligations and risk into managed processes.
ISO 37002:2021	Speak-up layer	Trust, impartiality, protection; receiving, assessing, addressing and concluding reports.	Protects weak signals and non-hierarchical information.
OECD RBC / 2023 Guidelines	Stakeholder layer	Risk-based due diligence, stakeholder engagement, remedy, NCP implementation mechanism.	Connects governance to affected stakeholders and business relationships.

Reference	GRF layer	Primary contribution	Integration role
GRTM / GRF	Resilience layer	Transmission, externalities, learning, maturity and indicators.	Tests whether governance protects adaptive and economic resilience.

6.1 Design principle: integration without duplication

The GRF is not intended to replicate standard clauses. An organization that already uses one or more of the reference frameworks should map existing controls, evidence and responsibilities into the GRF rather than create parallel bureaucracy. The resilience layer should primarily add cross-functional questions and indicators that existing systems may not ask.

6.2 Cross-layer governance questions

1. What material external dependencies could turn an internal governance failure into a local economic disruption?
2. Which governance signals are currently visible only within one function, subsidiary or reporting channel?
3. How is evidence from audits, investigations, grievances and stakeholder engagement retained and compared over time?
4. What triggers require escalation to the governing body rather than management-only resolution?
5. How does the organization test whether remediation has reduced recurrence rather than merely closed a case?
6. Which suppliers, communities, infrastructure systems or public services have limited substitution capacity if operations fail?

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Governance Resilience Indicators (GRI)

A diagnostic indicator library, not a certification checklist.

Governance Resilience Indicators translate the GRF into observable evidence. They are deliberately broader than conventional key performance indicators because the objective is diagnostic interpretation, not only performance management. Each indicator should be supported by auditable evidence and interpreted in context.

7.1 Indicator domains

Domain	What it evaluates
A. Governance	Board independence and challenge; oversight quality; decision traceability; risk escalation; dependency oversight.
B. Compliance	Obligation register maturity; control ownership; audit remediation; investigation quality; recurrence tracking.
C. Speak-Up	Channel trust; reporting responsiveness; impartiality; protection and retaliation indicators; closure quality.
D. Learning & Adaptation	Institutional memory; lessons-learned conversion; corrective action effectiveness; scenario adaptation; repeated-failure rate.
E. Economic Resilience	Supplier concentration; critical input exposure; employment dependence; investment confidence; local infrastructure dependency.

7.2 Core indicator set

ID	Indicator	Diagnostic question / definition	Typical evidence
GOV-01	Board challenge quality	Evidence of independent challenge and documented alternative views on material decisions.	Board minutes; committee papers; dissent/escalation records.
GOV-02	Material risk escalation	Time and threshold between detection of material risk and governing-body visibility.	Risk logs; escalation matrices; board packs.
GOV-03	Decision traceability	Ability to reconstruct key assumptions, evidence, authority and rationale.	Decision records; approvals; supporting analyses.
GOV-04	External dependency oversight	Board visibility over critical supplier, infrastructure and community dependencies.	Dependency maps; continuity plans; strategy papers.
CMP-01	Compliance obligation maturity	Completeness, ownership and update discipline of material obligations.	Obligation register; legal updates; control mapping.

ID	Indicator	Diagnostic question / definition	Typical evidence
CMP-02	Audit response time	Time from material finding to approved corrective action.	Audit tracker; management responses.
CMP-03	Remediation effectiveness	Evidence that corrective actions reduce recurrence.	Retesting; trend analysis; repeat findings.
CMP-04	Investigation integrity	Independence, evidence preservation and reasoned closure of material investigations.	Case files; protocols; oversight reports.
SPK-01	Reporting responsiveness	Time to acknowledge, assess, allocate and address reports.	Whistleblowing case system.
SPK-02	Retaliation risk index	Signals of adverse treatment or fear following protected reporting.	HR data; surveys; case reviews.
SPK-03	Reporter trust	Confidence that concerns can be raised safely and will receive impartial handling.	Culture surveys; channel usage trends.
SPK-04	Closure learning quality	Degree to which closed cases produce systemic lessons and control changes.	Closure reports; lessons logs; policy updates.
LRN-01	Institutional memory coverage	Retention of governance rationale, prior warnings, remediation history and key evidence.	Records management; knowledge repositories.
LRN-02	Learning conversion rate	Share of material findings converted into systemic process or control changes.	Improvement register; change records.
LRN-03	Repeat failure rate	Frequency of materially similar governance failures after closure.	Incident taxonomy; audit recurrence.
LRN-04	Scenario adaptation	Ability to translate emerging risk scenarios into governance action.	Scenario tests; business continuity exercises.
ECO-01	Supplier concentration exposure	Dependence on suppliers or customers with limited substitution options.	Procurement analytics; dependency mapping.
ECO-02	Critical input continuity	Exposure to energy, raw material, transport or infrastructure disruption.	Continuity plans; contracts; stress tests.
ECO-03	Local employment dependence	Materiality of the organization to local direct and indirect employment.	Workforce and regional economic data.
ECO-04	Local infrastructure dependency	Operational linkages to heating, utilities, transport or public-service infrastructure.	Infrastructure maps; service agreements.
ECO-05	Investment confidence signal	Changes in financing conditions, planned investment, insurer/lender posture or strategic partner confidence.	Financing data; investor communications.

7.3 Scoring logic

Score	Interpretation
0 - Absent	No evidence of a defined practice, or material evidence that the control is non-functional.
1 - Reactive	Practice exists inconsistently and is activated mainly after failure.
2 - Structured	Defined responsibilities, procedures and evidence exist, but cross-functional learning is limited.
3 - Learning	Evidence is compared over time and materially informs corrective action and governance decisions.
4 - Resilient	The practice is adaptive, tested, connected to external dependencies and demonstrably reduces recurrence or exposure.

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Governance Resilience Maturity Model (GRMM)

A five-level progression from formal compliance to resilient governance.

Governance Resilience Maturity Model (GRMM)

Level 1 - Reactive Governance

Controls and responses are event-driven. Governance information is fragmented. Reporting channels may exist but are not trusted or systematically linked to remediation. External dependencies are rarely included in governance decisions.

Level 2 - Structured Governance

Roles, policies, committees, compliance processes and reporting channels are defined. Evidence is retained, but functions still operate in silos and governance focuses primarily on organizational risk.

Level 3 - Learning Governance

Audit findings, investigations, speak-up cases and stakeholder feedback are classified and compared. Corrective actions are tracked to effectiveness. Institutional memory is intentionally preserved.

Level 4 - Adaptive Governance

The governing body uses trend data, scenario analysis, external dependency mapping and forward-looking indicators. Controls, incentives and strategy are adjusted before failure becomes acute.

Level 5 - Resilient Governance

Governance explicitly considers ecosystem consequences, critical dependencies and long-term stakeholder confidence. Internal learning and external resilience are integrated into strategy, capital allocation and oversight.

8.1 Maturity evidence

Maturity should be evidenced, not self-declared. A Level 4 or 5 assessment requires records showing that governance decisions changed in response to learning and dependency analysis. Policies and training alone are insufficient evidence of adaptive or resilient governance.

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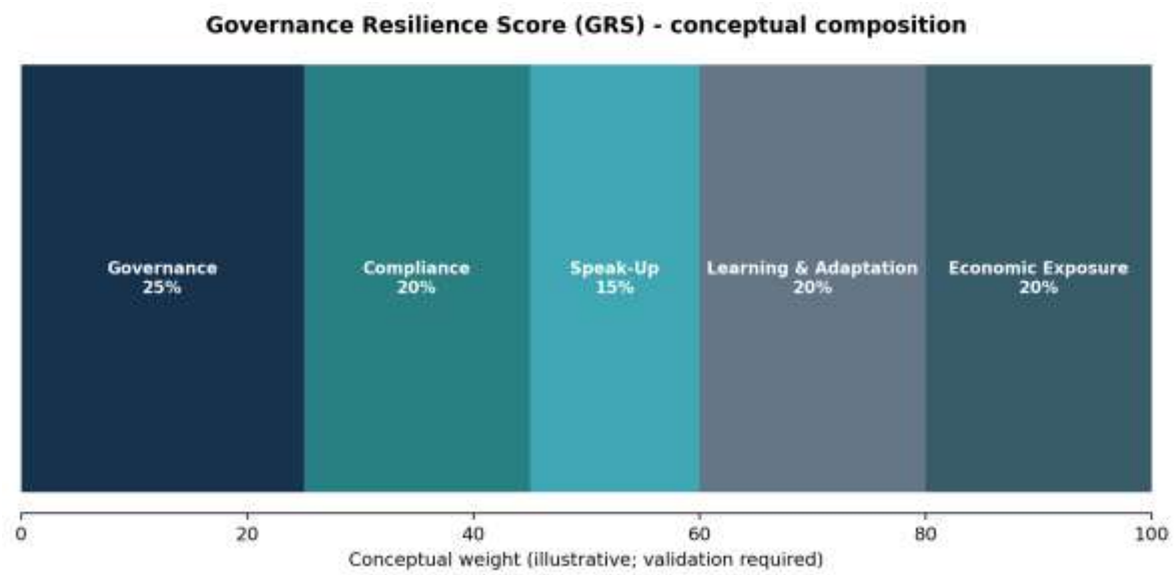
Governance Resilience Score (GRS)

A conceptual scoring architecture for future empirical validation.

The GRS is proposed as a future quantitative layer. It is not a validated metric and should not be used for certification, investment ranking, legal conclusions or public claims of resilience at this stage. Its purpose is to make the framework testable and to define a transparent research agenda.



9.1 Illustrative domain weights

A future validation study could test whether weights such as Governance 25%, Compliance 20%, Speak-Up 15%, Learning & Adaptation 20%, and Economic Exposure 20% produce meaningful predictive or diagnostic value. Weighting should be empirically derived and may need sector-specific adjustments.

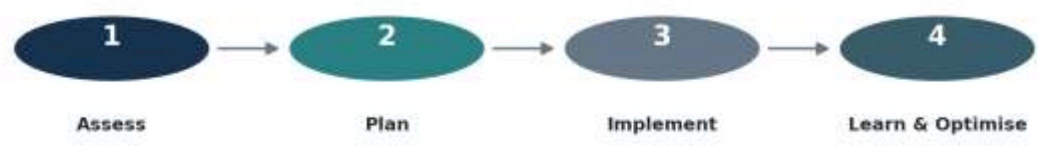
9.2 Guardrails

- No single composite score should conceal a critical red flag in an individual domain.
- Economic exposure may be high even where governance quality is strong; high exposure is not itself misconduct.
- Speak-up volume should not be treated as a negative indicator without context; high reporting can indicate trust.
- Scores should be evidence-backed, time-bounded and accompanied by narrative reasoning.
- Independent validation should test inter-rater reliability, construct validity, predictive validity and sensitivity to organization size and sector.

10

Implementation and Assurance

A practical cycle for corrective governance and resilience building.



GRF continuous resilience cycle

10.1 Step 1 - Assess

- Define scope: entity, business unit, sector and material dependencies.
- Map existing governance, compliance, whistleblowing and RBC controls.
- Score GRI indicators using evidence, not perception alone.
- Identify red-flag dependencies and transmission pathways.
- Record uncertainties and competing explanations.

10.2 Step 2 - Plan

- Prioritize issues by materiality, reversibility and transmission potential.
- Assign governing-body and management accountability.
- Define remediation outcomes and evidence of effectiveness.
- Protect records and preserve institutional memory.
- Engage affected stakeholders where appropriate.

10.3 Step 3 - Implement

- Execute corrective actions with ownership and deadlines.
- Strengthen escalation, reporting and protection mechanisms.
- Test continuity arrangements for critical inputs and infrastructure.
- Integrate learning into policies, incentives, training and strategy.

10.4 Step 4 - Learn and optimise

- Retest corrective actions.
- Compare recurring signals across functions and time.
- Escalate repeated or systemic issues to the governing body.

- Update dependency maps and resilience scenarios.
- Publish or communicate appropriate learning to stakeholders without compromising legitimate confidentiality.

10.5 Assurance model

Layer	Typical actor	GRF role
First line	Operational management	Own risks, controls, evidence and corrective action.
Second line	Compliance / risk / ethics	Set frameworks, monitor, challenge, aggregate and escalate.
Third line	Internal audit	Provide independent assurance over design and effectiveness.
Governing body	Board / supervisory body	Set direction, challenge management and oversee material resilience risks.
External assurance	Auditors / independent reviewers as appropriate	Validate selected evidence or framework implementation where a suitable assurance basis exists.

11

Policy Recommendations

Actions by stakeholder group.

Corporations and governing bodies

- Add institutional learning and external dependency analysis to board risk oversight.
- Require material audit, investigation and speak-up findings to include a recurrence and learning assessment.
- Map critical local suppliers, infrastructure dependencies and low-substitution risks.
- Track remediation effectiveness, not only closure rates.
- Treat retaliation indicators as governance-risk data, not solely HR matters.

Regulators and supervisors

- Assess whether governance systems detect and escalate risks before insolvency or service disruption becomes acute.
- Encourage cross-functional evidence on remediation, not only policy existence.
- Where mandates permit, incorporate concentration and ecosystem-dependency analysis into supervisory dialogue.

OECD NCPs and RBC practitioners

- Use closed cases as structured sources of institutional learning while respecting procedural rules and confidentiality.
- Distinguish remedy outcomes from learning outcomes: a case may close while systemic lessons remain relevant.
- Where appropriate, encourage enterprises to show how specific-instance learning is integrated into due diligence and governance.

Investors and lenders

- Expand governance due diligence beyond formal policies to remediation effectiveness, decision traceability and institutional memory.
- Assess critical external dependencies that could convert governance weakness into continuity or regional risk.
- Treat repeated unresolved governance signals as potential indicators of adaptive-capacity weakness.

Public enterprises and ownership entities

- Include public-service and regional economic dependency in governance resilience assessments.
- Clarify board accountability for essential-service continuity and stakeholder impact.
- Preserve documentary continuity through leadership or ownership transitions.

12

Research and Validation Agenda

Turning a conceptual framework into an evidence-based instrument.

12.1 Priority research questions

7. Does stronger governance resilience maturity correlate with lower recurrence of material compliance failures?
8. Do trusted speak-up systems improve the speed or quality of organizational adaptation?
9. Can institutional-memory indicators predict resilience during leadership transitions or financial stress?
10. Does governance maturity correlate with supplier continuity, workforce stability or investment confidence in highly dependent local economies?
11. Which GRTM stages are empirically observable and which are better treated as contextual mechanisms?
12. How should sector concentration, organization size and public-service dependence alter GRI thresholds and GRS weights?

12.2 Validation design

A robust validation programme should separate instrument development from outcome testing. An initial phase could establish construct definitions and coding rules. A second phase could test inter-rater reliability across organizations and sectors. A third phase could examine convergent and discriminant validity against existing governance and risk measures. Only after that should predictive relationships with economic resilience outcomes be tested.

12.3 Competing explanations

- Organization size: larger organizations may have more documented controls and more visible incidents.
- Sector criticality: utilities, steel, banking and transport have greater transmission potential than many service businesses.
- Economic cycle: macroeconomic stress may create both governance strain and local fragility without direct causation.
- Ownership transition: restructuring or ownership change can affect records, incentives and continuity independently of compliance maturity.
- Regulatory intensity: heavily regulated sectors may score higher on formal structure without necessarily demonstrating stronger learning.

Research discipline

The GRF should be tested as a falsifiable model. Evidence that certain stages do not predict resilience outcomes, or that other variables explain the relationship better, should lead to revision of the framework.

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Conclusion

Governance effectiveness is not only an internal control question.

The Governance Resilience Framework advances a simple but consequential proposition: governance failures rarely remain internal when they persist in organizations that are economically, socially or infrastructurally significant. The pathway is not automatic, but it is intelligible. Weak governance can erode institutional learning; reduced learning can weaken adaptive capacity; declining adaptability can reduce stakeholder confidence; and material external dependencies can transmit internal weakness into local economic fragility.

This perspective changes the function of compliance. Compliance is not merely a legal safeguard or regulatory burden. It is institutional infrastructure that preserves information, protects weak signals, supports reasoned remediation, retains institutional memory and enables organizations to learn before risk becomes irreversible.

The GRF therefore proposes that governance effectiveness should be evaluated through two complementary questions: Did the organization comply? And did its governance preserve the adaptive capacity and long-term resilience of the economic system in which it operates?

Final thesis

Compliance should be understood as institutional infrastructure that preserves learning, protects adaptive capacity and strengthens economic resilience. Governance effectiveness should therefore be measured not only by compliance outcomes, but also by its contribution to the long-term resilience of the economic systems in which organizations operate.

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Appendix A - Illustrative Case Validation: Nova Željezara Zenica

A bounded test of the GRTM against documented insolvency and continuity risks.

Important limitation

This appendix is an illustrative framework application, not a judicial finding of governance misconduct and not a causal determination. It relies on selected court records and related materials available to the author. Where the record documents financial or continuity facts, they are stated as such; where the GRF raises governance questions, they are presented as diagnostic questions rather than conclusions.

A.1 Documented context

Court materials in case 43 0 St 268975 25 St record that Nova Željezara Zenica submitted a proposal for bankruptcy proceedings on 17 December 2025 and described a prolonged state of insolvency / inability to meet due obligations. The same record states that matured liabilities were reported at approximately BAM 337.4 million at 31 December 2024 and approximately BAM 350.8 million at 30 November 2025. It also records risks to technological-process maintenance, raw-material procurement, supplier payments, and employee compensation.

On 11 February 2026, the Municipal Court in Zenica opened a preliminary proceeding to determine whether conditions existed for bankruptcy and appointed a temporary bankruptcy administrator. On 19 March 2026 the court ordered a financial expert examination of the debtor's economic-financial condition.

A court record dated 2 April 2026 describes the temporary administrator's request for a protective measure. According to that record, transaction statements showed payments to certain suppliers on 1 April while management was said to be aware of an imminent risk of interruption of key energy supply. The administrator relied, among other evidence, on a warning concerning electricity debt and argued that obligations critical to preservation of assets and prevention of greater damage had not been prioritized.

Later court materials record that the Federation Government filed a proposal for extraordinary administration on 22 June 2026, after which a court measure postponed the bankruptcy decision pending determination of that separate process. Subsequent materials available in the file set record the opening of bankruptcy proceedings and refer to continuing issues of claims and estate administration. These procedural facts are useful to the GRF because they show a transition from internal financial stress to questions of operational continuity and public-policy intervention.

Source note: *Selected source base: Municipal Court in Zenica, case no. 43 0 St 268975 25 St; materials dated 11 Feb, 19 Mar, 2 Apr and later 2026, as retrieved from the user's document archive. Values and procedural descriptions should be checked against the authoritative originals before external publication.*

A.2 GRTM mapping

GRTM stage	What the selected record supports	GRF diagnostic question
1. Governance Failure	The legal record documents severe financial stress and later concerns over payment prioritization under energy-supply risk.	Did governing bodies receive timely, complete and independently challenged information on liquidity, continuity and creditor priorities?
2. Loss of Institutional Learning	Not established as a factual finding by the selected court materials.	Were earlier warnings, audit observations, operational incidents or compliance reports preserved and compared over time?
3. Declining Adaptive Capacity	The record documents threats to technological-process maintenance, raw-material procurement, supplier payments and payroll.	How quickly did governance mechanisms adapt capital allocation, supplier strategy and continuity planning as insolvency deepened?
4. Declining Stakeholder Confidence	The record evidences creditor, supplier and energy-supply pressures and the need for court-supervised measures.	Did counterparties alter payment terms, supply posture, financing or contractual protection as confidence weakened?
5. Economic Transmission	The documented risks concern suppliers, employees, key energy inputs and continued industrial operations.	Which local firms, workers, utilities and services were materially dependent on continuity of the steel operation?
6. Local Economic Fragility	Not proved by the selected record alone.	What regional employment, supplier, infrastructure and investment effects are observable and attributable after controlling for broader economic factors?

A.3 Why this case is useful for validation

The case is analytically useful because it contains the type of dependency structure the GRF is designed to examine: a large industrial enterprise, significant financial distress, continuity risks involving key energy inputs, supplier and employee exposure, and later public-law intervention. It therefore provides a demanding test of whether governance indicators can distinguish between internal organizational problems and wider resilience risk.

A.4 Evidence still required

- Board and management records showing risk escalation and liquidity decisions.
- Internal audit, compliance and risk reports over the period preceding insolvency.
- Speak-up / grievance data, including handling and retaliation controls where legally accessible.
- Supplier concentration and payment-timing data.
- Employment and local supply-chain dependency data.
- Infrastructure and utility dependency mapping, including any heating or energy-service linkages that can be independently documented.
- Investment, financing and insurer/lender responses over time.

A.5 Publication rule

For any external publication, the case appendix should remain shorter than the framework itself and should distinguish verified facts, allegations, procedural positions and analytical inferences. The case should demonstrate the model's applicability, not become the source of the model's validity.

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Appendix B - GRI Assessment Register

A practical evidence and assessment template.

ID	Indicator	Score	Evidence / owner	Assessment note
GOV-01	Board challenge quality	0-4	Evidence reference / owner	Finding, gap and corrective action
GOV-02	Material risk escalation	0-4	Evidence reference / owner	Finding, gap and corrective action
GOV-03	Decision traceability	0-4	Evidence reference / owner	Finding, gap and corrective action
GOV-04	External dependency oversight	0-4	Evidence reference / owner	Finding, gap and corrective action
CMP-01	Compliance obligation maturity	0-4	Evidence reference / owner	Finding, gap and corrective action
CMP-02	Audit response time	0-4	Evidence reference / owner	Finding, gap and corrective action
CMP-03	Remediation effectiveness	0-4	Evidence reference / owner	Finding, gap and corrective action
CMP-04	Investigation integrity	0-4	Evidence reference / owner	Finding, gap and corrective action
SPK-01	Reporting responsiveness	0-4	Evidence reference / owner	Finding, gap and corrective action
SPK-02	Retaliation risk index	0-4	Evidence reference / owner	Finding, gap and corrective action
SPK-03	Reporter trust	0-4	Evidence reference / owner	Finding, gap and corrective action
SPK-04	Closure learning quality	0-4	Evidence reference / owner	Finding, gap and corrective action
LRN-01	Institutional memory coverage	0-4	Evidence reference / owner	Finding, gap and corrective action
LRN-02	Learning conversion rate	0-4	Evidence reference / owner	Finding, gap and corrective action
LRN-03	Repeat failure rate	0-4	Evidence reference / owner	Finding, gap and corrective action
LRN-04	Scenario adaptation	0-4	Evidence reference / owner	Finding, gap and corrective action
ECO-01	Supplier concentration exposure	0-4	Evidence reference / owner	Finding, gap and corrective action
ECO-02	Critical input continuity	0-4	Evidence reference / owner	Finding, gap and corrective action
ECO-03	Local employment dependence	0-4	Evidence reference / owner	Finding, gap and corrective action
ECO-04	Local infrastructure dependency	0-4	Evidence reference / owner	Finding, gap and corrective action

ID	Indicator	Score	Evidence / owner	Assessment note
ECO-05	Investment confidence signal	0-4	Evidence reference / owner	Finding, gap and corrective action

B.1 Red-flag override

A composite or average score should never override a material red flag. Examples include credible retaliation, material evidence destruction, unremediated critical audit findings, undisclosed conflicts affecting key decisions, or an immediate continuity risk to a critical input or essential service. Such matters should trigger direct escalation regardless of maturity score.

B.2 Evidence quality scale

Evidence level	Meaning
E0	No evidence / assertion only
E1	Policy or stated process exists
E2	Operational records show the process is used
E3	Independent review or retesting supports effectiveness
E4	Longitudinal evidence shows learning, adaptation and reduced recurrence / exposure

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Appendix C - Reference Architecture and Sources

Primary standards and OECD materials used to anchor the integrated model.

C.1 International standards

Reference	Relevance to GRF
ISO 37000:2021	Governance of organizations - Guidance. International Organization for Standardization.
ISO 37301:2021	Compliance management systems - Requirements with guidance for use. International Organization for Standardization. Current edition confirmed in 2026; Amendment 1:2024 relates to climate action changes.
ISO 37002:2021	Whistleblowing management systems - Guidelines. International Organization for Standardization.

C.2 OECD materials

- OECD (2023), G20/OECD Principles of Corporate Governance 2023, OECD Publishing, Paris, https://doi.org/10.1787/ed750b30-en.
- OECD (2023), OECD Guidelines for Multinational Enterprises on Responsible Business Conduct, OECD Publishing, Paris, https://doi.org/10.1787/81f92357-en.
- OECD (2018), OECD Due Diligence Guidance for Responsible Business Conduct, OECD Publishing, Paris, https://doi.org/10.1787/15f5f4b3-en.
- OECD, National Contact Points for Responsible Business Conduct - institutional and implementation resources.

C.3 Conceptual sources for future academic edition

A journal-ready academic edition should add a systematic literature review covering organizational learning, institutional economics, resilience theory, high-reliability organizations, governance externalities, stakeholder trust and compliance effectiveness. The present draft deliberately distinguishes the applied GRF architecture from a full literature-review article.

C.4 Attribution and endorsement statement

ISO 37000, ISO 37301 and ISO 37002 are referenced as independent international standards. OECD instruments are referenced as independent policy standards and guidance. The Governance Resilience

Framework is an author-developed integration and is not an ISO or OECD standard, certification scheme, endorsement or official interpretation.

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GRF at a Glance

Governance

Direction, accountability and oversight establish what the organization is responsible for and how governing bodies exercise authority.

Compliance

Obligations, controls, investigations and remediation preserve the integrity of organizational response.

Speak-Up

Protected reporting preserves weak signals and knowledge that formal hierarchy may miss.

Responsible Business Conduct

Due diligence, stakeholder engagement and remedy connect internal governance to affected people and business relationships.

Resilience

Institutional learning and adaptive capacity determine whether governance weakness remains containable or transmits into wider economic fragility.

GOVERNANCE RESILIENCE FRAMEWORK

Compliance, institutional learning and economic resilience in one integrated model.